

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendments, claims 1-24 are pending in the application, with claims 1, 7, 8, 9, 10, 11, 12, 13 and 19 being the independent claims. Claims 15-18 and 22-24 have been withdrawn with prejudice to our disclaimer of the subject matter therein. Claims 1 and 14 have been amended.

The foregoing amendments place the application in condition for allowance, or at least reduce the issues for appeal. Further, the foregoing amendments would not place any additional burdens on the Office and no further searches are required. Thus, Applicants respectfully request the foregoing amendments be entered after final.

Based on the above amendments and the following remarks, Applicants respectfully request that the Office reconsider all outstanding objections and rejections and that they be withdrawn.

Objection to the Claims

Applicants thank the Office for their comments regarding the errors found in claim 1. Applicants note that they have made the necessary amendments to correct these errors, and respectfully request that the objection of claim 1 be withdrawn.

Provisional Objection of the Claims

Further to our telephone interview with the Examiner on March 19, 2009, the Examiner stated that claims 6-13, 19-21 and the remaining subject matter of claims 1-5 and 14 have been provisionally withdrawn from consideration, pending a request for an expansion of the search. As detailed below, Applicants respectfully submit that all objections and rejections raised by the Office should be withdrawn. Thus, Applicants

respectfully request that the Office expand the search and remove the provisional withdrawal of claims 6-13, 19-21 and the remaining subject matter of claims 1-5 and 14.

Rejections under 35 U.S.C. § 103(a)

The rejection of claims 1-5 and 14 under 35 U.S.C. § 103(a) as allegedly being unpatentable over PCT publication WO 01/17973 to Maetzke ("Maetzke") is respectfully traversed. The Office has maintained the rejection of claims 1-5 and 14, alleging that the that the ring placement variation on the phenyl ring, i.e., meta- vs. para-, is an obvious modification to one skilled in the art because structurally similar analogs assume to have the same utility as an herbicide. Final Office Action, page 4, lines 2-5.

The United States Supreme Court, in *KSR International v. Teleflex, Inc.*, 550 U.S. 398 (2007), clarified the requirements for obviousness analysis under 35 U.S.C. § 103(a). The Court noted that the key to supporting any rejection under 35 U.S.C. § 103(a) is the clear articulation of reason(s) why the claimed invention would have been obvious. The Court specifically stated:

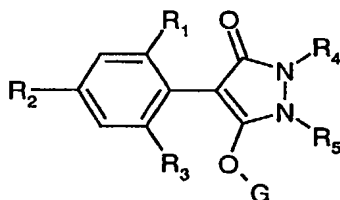
Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was ***an apparent reason*** to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, ***this analysis should be made explicit***. (*KSR*, slip opinion, page 14, *citing In Re Kahn*, 441 F. 3d 977,988 (CA, Fed. 2006) ([R]ejections on obviousness grounds ***cannot be sustained by mere conclusory*** statements, instead, there must be some articulated reasoning with some rational underpinning to support a legal conclusion of obviousness").

Applicants submit that a *prima facie* case of obviousness cannot be supported by Maetzke, because the cited art does not disclose the presently claimed invention. Further, Maetzke does not provide a rationale to modify its compounds to arrive at the presently claimed compounds, the unpredictability of the insecticide field weighs against

a conclusion of obviousness and the presently claimed compounds demonstrate superior insecticidal results compared to the Maetzke compounds.

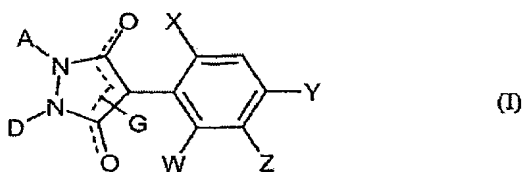
i. Maetzke Does Not Disclose the Presently Claimed Compounds.

The Office alleged that Maetzke discloses a genus of compounds of the following formula:



See Maetzke, page 2. Maetzke's general formula encompasses hundreds of thousands (if not millions) of compounds. However, neither the compounds of this general formula nor the compounds described in the examples of Maetzke teach or disclose the compounds of the present invention.

Claim 1 of the present invention recites compounds of formula (I):



Application as Filed, page 151, ll. 1-2. Compounds of formula (I) feature a substituent at the meta-position of the phenyl ring ("Z"). Maetzke does not teach any compounds of formula (I) which contain a substituent at the *meta*-position of the phenyl ring. Thus, Applicants respectfully submit that Maetzke does not teach all of the elements of the present claims.

ii. Maetzke Does Not Provide A Rationale To Modify Its Compounds To Arrive At the Presently Claimed Compounds.

As discussed *supra*, Maetzke does not disclose the claimed compounds. Maetzke also does not articulate any rationale to modify its compounds to arrive at the presently claimed compounds. The Office alleged that such a modification would have been obvious because structurally similar analogs assume to have the same utility as an herbicide. *See* Final Office Action, page 4, lines 3-5. However, the presently claimed compounds demonstrate an unexpected utility not taught by Maetzke. Maetzke teaches compounds which are suitable for utilization as **herbicides**. *See* Maetzke, Abstract. In contrast, the presently claimed compounds demonstrate exceptional **insecticidal** activity, as exemplified throughout the specification. *See* Application as Filed, pages 135-147, Use Examples A-I.

According to the M.P.E.P. and the cases cited therein, "[i]t is the properties and utilities that provide real world motivation for a person of ordinary skill to make species structurally similar to those in the prior art." M.P.E.P. § 2144.08 (II)(A)(4)(d). Nowhere does Maetzke teach that the disclosed compounds exhibit any insecticidal activity or that those compounds can, or should, be used as insecticides. Thus, it would not be expected that modifying the Maetzke compounds would produce compounds demonstrating different properties and utilities other than those disclosed in Maetzke. Maetzke **only** teaches compounds useful as herbicides. Thus, Maetzke does not provide the "real world motivation" for one of ordinary skill in the art to modify its compounds to produce compounds demonstrating exceptional insecticidal activity, such as the presently claimed compounds. Therefore, Applicants respectfully submit that Maetzke does not provide an explicit rationale to modify its compounds to arrive at the presently claimed compounds, as required by *KSR*.

iii. The Unpredictability of the Insecticide Field Weighs Against A Conclusion of Obviousness.

The M.P.E.P. states, "[i]f the technology is unpredictable, it is less likely that structurally similar species will render a claimed species obvious because it may not be reasonable to infer that they would share similar properties." M.P.E.P. § 2144.08(II)(A)(4)(e). With respect to presently claimed subject matter, the M.P.E.P. cites to *In re Schechter*, in which the Court of Customs and Patent Appeals considered the unpredictability in the insecticide field as a factor weighing against a conclusion of obviousness of the claimed compounds. *See Schechter*, 205 F.2d 185, 191 (C.C.P.A. 1953). In view of the Court's reasoning in *Schechter*, Applicants respectfully submit that one of ordinary skill in the art would not have had a reasonable expectation of producing compounds with similar properties to the Maetzke compounds through modification of those compounds. Additionally, it would be just as unreasonable, if not more, to expect that modifying the Maetzke compounds would produce compounds demonstrating properties and utilities not taught by Maetzke. Thus, Applicant's submit that the unpredictability of the insecticide field weighs against a conclusion of obviousness.

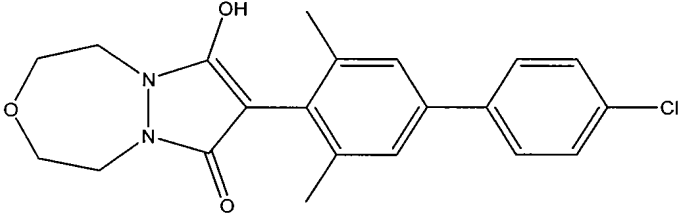
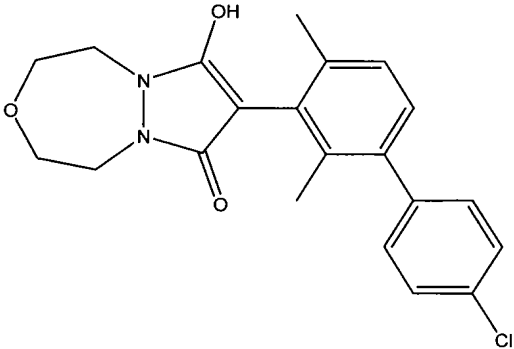
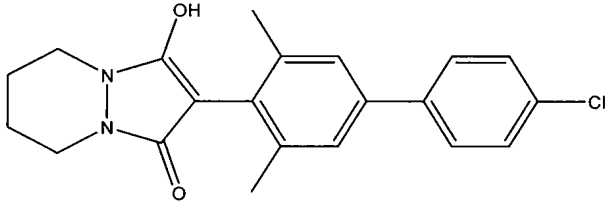
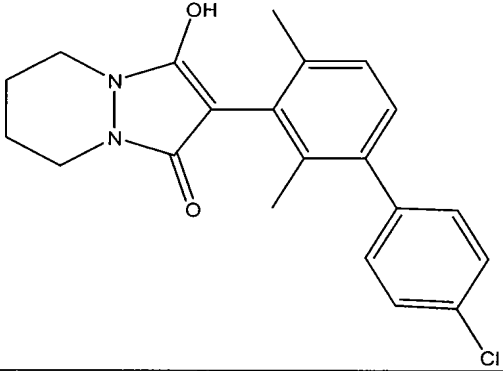
Accordingly, for all the reasons provided above, Applicants respectfully submit that a *prima facie* case of obviousness has not been established and request that the rejection of claims 1-5 and 14 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

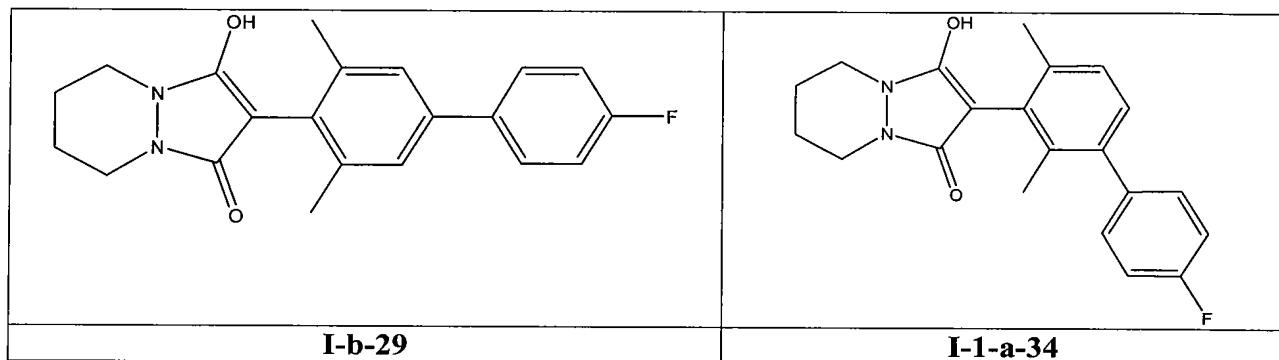
iv. The Presently Claimed Compounds Demonstrate Superior Insecticidal Activity Over The Maetzke Compounds.

The Office alleged that the that the ring placement variation on the phenyl ring, i.e., *meta-* vs. *para-*, is an obvious modification to one skilled in the art because structurally similar analogs assume to have the same utility as an herbicide. Final Office Action, p. 4, ll. 2-5 (emphasis added). Assuming *arguendo*, that the Office has

established a *prima facie* case of obviousness, which it has not, "[a] *prima facie* case of obviousness based on structural similarity is rebuttable by proof that the claimed compounds possess unexpectedly advantageous or superior properties." M.P.E.P. § 2144.09(IV) citing *In re Papesch*, 315 F.2d 381 (C.C.P.A. 1963); and *In re Wiechert*, 370 F.2d 927 (C.C.P.A. 1967).

Applicants direct the Office's attention to the previously submitted Declaration under 37 C.F.R. § 1.132 executed by Dr. Wolfgang Thielert (Declaration). Table BCS 03-3047 of the Declaration compares the insecticidal activity of the Maetzke compounds (para- position) to the presently claimed compounds (meta- position). The structures of the compared compounds are found in the table below:

Maetzke Compounds	Instantly Claimed Compounds
	
I-a-14	I-2-a-35
	
I-b-41	I-1-a-35



Referring to Table BCS 03-3047 of the Declaration, the term "g/ha" refers to the application rate, and the term "%7d" refers to the mortality rate: 100% means that all insects have been killed, 0% means that none of the insects have been killed. Table BCS 03-3047 of the Declaration indicates that the presently claimed compounds exhibit superior insecticidal activity than the Maetzke compounds in killing beetle larvae (*Phaedon chochleariae*, as seen in experiment 1), fall armyworm larvae (*Spodoptera frugiperda*, as seen in experiment 2) and instars of green peach aphid (*Myzus persicae*, as seen in experiment 3). Declaration, page 4, Table BCS 03-3047. Specifically, the presently claimed compounds exhibit from 33% to 100% more activity than the Maetzke compounds. *Id.* Thus, a modification of the ring placement on the phenyl ring from the *para*-position to *meta*-position results in compounds with superior insecticidal activity, and is therefore an unobvious modification of the Maetzke compounds.

Accordingly, for all the reasons provided above, Applicants respectfully submit that even if the Office has established a *prima facie* case of obviousness, which it has not, it is rebutted by the superior insecticidal activity of the claimed compounds over the Maetzke compounds. Thus, Applicants respectfully request that the rejection of claims 1-5 and 14 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

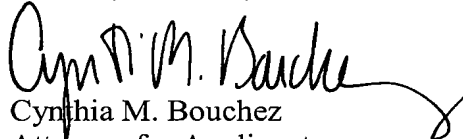
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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